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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/707,326	11/06/2000	Rodric C. Fan	M-9630 US	9442

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1762 TECHNOLOGY DRIVE  
SUITE 226  
SAN JOSE, CA 95110

EXAMINER

SHARMA, SUJATHA R

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 02/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/707,326

Applicant(s)

FAN ET AL.

Examiner

Sujatha Sharma

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**– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,5-7,10-62 and 64-74 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-7,10-62 and 64-74 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1,3,5-7,12-16,18-21,23,24,28,29,33,36,40-42,44,47-51,53

55,57,59,61,62,66,68,71-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Diggelen (herein after Diggelen) [US 6,587,789] in view of Stilp [US 5,608,410].

Regarding claims 1,36,59, Diggelen discloses a method and apparatus for locating mobile receivers using a wide area reference network for propagating ephemeris. Diggelen further discloses an information processing station (108 in Fig. 1) connected and accessible via a data network (see col. 4, lines 27-36), said information processing station having a database to store navigation information regarding satellites. Diggelen further discloses a receiving station (126 in Fig. 1) including a position system receiver and a transmitter, said positioning system receiver receiving position/navigation information from a positioning system and transmitting positioning information to said information processing station via a data link for storage at said database. Diggelen further discloses a mobile unit (118 in Fig. 1) including a positioning system receiver and a wireless receiver, said mobile unit receiving said positioning information from said information processing station via said data network using wireless communication. See col. 3, line 1- col. 4, line 36.

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However Diggelen fails to disclose a method wherein the information processing station connected to and accessible via a data network, stores differential correction data.

Stilp, in the same field of endeavor, teaches a method wherein the information processing station connected to and accessible via a data network, stores differential correction data. See col. 15, lines 44-60.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to provide the above teaching of Stilp to store differential correction data in Diggelen's invention in order to acquire position information from GPS satellites and accurately determine the position of the mobile unit in order to avail the location dependent services.

Regarding claim 3, Diggelen further discloses the positioning system to be global positioning system (GPS), said positioning receiver is a GPS receiver and said positioning/navigation information is GPS satellite information. See Fig. 1 and col. 3, line 1- col. 4, line 36.

Regarding claims 5,6,40,41,61,62, Diggelen discloses a method where the information processing station (108 in Fig. 1) distributes said satellite information by broadcasting satellite information through said data network and said mobile unit receives said broadcast satellite information through wireless communication (see fig. 1 and col. 4, lines 27- 36).

Regarding claim 7,42,66, Diggelen discloses the satellite information comprising of ephemeris information defining the orbital parameters of said GPS satellites (see col. 1, line 56 – col. 2, line 35).

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Regarding claims 44,68, Diggelen further discloses the satellite information to comprise of one or more navigation messages transmitted by said GPS satellites (see summary of invention).

Regarding claims 12,13,47,48,71,72, Diggelen further discloses the satellite information to also include satellite almanac information of said GPS satellites, where this data is further used by the mobile station to locate one or more GPS satellites above the horizon (see col. 1, lines 34-44).

Regarding claims 14,49,73, Diggelen further discloses the satellite information to include satellite clock correction factors of said GPS satellites. See col. 4, lines 13-17 and col. 6, lines 21-26.

Regarding claims 15,50,74, Diggelen further discloses the satellite information to include Doppler shift information (see col.1, lines 34-44 and col. 6, lines 62-66).

Regarding claims 16,51, Diggelen further discloses the satellite information to comprise of differential correction data computed by said receiving station (see col.1, lines 34-44 and col. 6, lines 62-66).

Regarding claim 18, Diggelen discloses the receiving station (126 in Fig.1) to be stationary (see col. 3, line 1- col. 4, line 36).

Regarding claims 19,53, Diggelen discloses a method where the receiving station is in direct line of sight of one or more GPS satellites continuously and substantially uninterrupted (see Fig. 1, and col.3, lines 1-67).

Regarding claims 20,21,54,55, Diggelen further discloses the data link to be a wireless data link or a wired data link. See Fig.1 and col. 3, line 1- col. 4, line 36.

Regarding claims 23,57, Diggelen discloses the data link as a communication data link through said data network. See Fig.1 and col. 3, line 1- col. 4, line 36.

Regarding claim 24, Diggelen further discloses a wireless network gateway (116 in Fig.1) connected to said data network, said gateway providing wireless communication service to said mobile unit to provide the mobile unit information from the data network. See Fig.1 and col. 3, line 1- col. 4, line 36.

Regarding claim 28, Diggelen discloses the communication service to comprise communication over a satellite data link. See Fig.1 and col. 3, line 1- col. 4, line 36.

Regarding claims 29, 58, Diggelen discloses the data network to comprise of publicly shared network such as the Internet. See col. 4, lines 21-36.

Regarding claim 33, Diggelen discloses a method where the information processing station broadcasts said satellite information to the mobile unit/cell phone. See Fig.1 and col. 3, line 1- col. 4, line 36

3. Claims 17,25-27,38,39,43,52,60,65,67 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Diggelen (herein after Diggelen) [US 6,587,789] and Stilp [US 5,608,410] in view of Twitchell [US 6,222,483].

Regarding claims 8,17,38,39,43,52,60,65,67, Diggelen and Stilp disclose all the limitations as claimed. However, they do not disclose the method of triangulation to determine the position of the mobile unit.

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Twitchell, in the same field of endeavor, teaches the method of triangulation i.e. receives time of arrival information from at least three GPS satellites to determine the position of the mobile unit.

See col. 2, lines 10-20.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include the teachings of Twitchell to Diggelen and Stilp in order to rapidly locate, track and acquire position information from GPS satellites and accurately determine the position of the mobile unit in order to avail the location dependent services.

Regarding claims 25-27, Twitchell further discloses communication service comprising communication using packet data structure, cellular telephone modem and using a SMS of a cellular communication structure. See col.7, lines 5-37.

4. Claims 10,11,30-35,45,46,69,70 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Diggelen (herein after Diggelen) [US 6,587,789] and Stilp [US 5,608,410] in view of Sheynblat [US 6,583,756].

Regarding claims 10,11,45,46,69,70, Diggelen and Stilp disclose all the limitations as claimed. They however do not disclose the satellite information to also include the health information of the said GPS satellites.

Sheynblat, in the same field of endeavor, teaches a method where the GPS receiver station also receives information concerning the status/health of the satellite. See col.2, line 65 – col. 3, line 15.

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Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include the teachings of Sheynblat to Diggelen and Stilp in order to avoid acquiring and tracking of unhealthy satellites and thus rapidly locate, track and acquire position information from healthy satellites.

Regarding claims 30,31, Sheynblat further discloses the data processing station to include maps. See Fig, 2A and pages 6 and 7, pages 11 and 12.

Regarding claim 32, Sheynblat further discloses a method where the data processing station provides travel-related information to said mobile unit based on the measured position of said mobile unit. See summary of invention, page 12, paragraph 3, pages 26,27,page 30, paragraph 1, page 32, paragraph 1.

Regarding claim 34, Sheynblat further discloses a method where the user of the said cell phone places a 911 call using the said cell phone and determine its position using said broadcast satellite information from said information processing station. See page 12, paragraph 3.

Regarding claim 35, Sheynblat further discloses a method where the user of said mobile unit obtains location dependent information using the cell phone. See summary of invention, page 12, paragraph 3, pages 26,27,page 30, paragraph 1, page 32, paragraph 1.



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5. Claims 37,64 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Diggelen (herein after Diggelen) [US 6,587,789] in view of Stilp [US 5,608,410]

Regarding claims 37,64, Diggelen and Stilp disclose all the limitations as claimed.

Diggelen further disclose the receiving station to receive GPS satellite information from 28 satellites in earth's orbit.

The examiner takes official notice that the number of satellites depends on the availability of the satellites and the design of the satellite system and changing the number of satellites from 28 to 24 does not alter the scope of the invention.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to receive GPS satellite information from 24 satellites in earth's orbit in order to meet the system requirements and availability requirement.

6. Claims 22 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over van Diggelen (herein after Diggelen) [US 6,587,789] in view of Stilp [US 5,608,410]

Regarding claims 22 and 56, Diggelen modified by Stilp discloses the use of landline for the data link. See col. 3, lines 45-52. Diggelen does not disclose particularly the use of T1 link for the data link.

However, the examiner takes official notice that a T1 link is a landline.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the landline link in the modified Diggelen's invention with a T1 link in order to increase the speed and capacity of the data transmission.

***Response to Arguments***

7. Applicant's arguments with respect to claims 1-3,5-7,10-62 and 64-74 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wortham [US 5,913,170] Locating system and method using a mobile communication network

Greene [US 5,926,133] Differentially corrected position location system and method for mobile communication networks

Buford [US 5,945,948] Method and apparatus for location finding in a communication system

Rowson [US 6,067,484] Differential GPS landing system

Krasner [US 6,104,338] Method and apparatus for operating a satellite positioning receiver

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sujatha Sharma whose telephone number is 703-305-5298. The examiner can normally be reached on Mon-Fri 7.30am - 4.00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sujatha Sharma  
February 7, 2005



NAY MAUNG  
SUPERVISORY PATENT EXAMINER